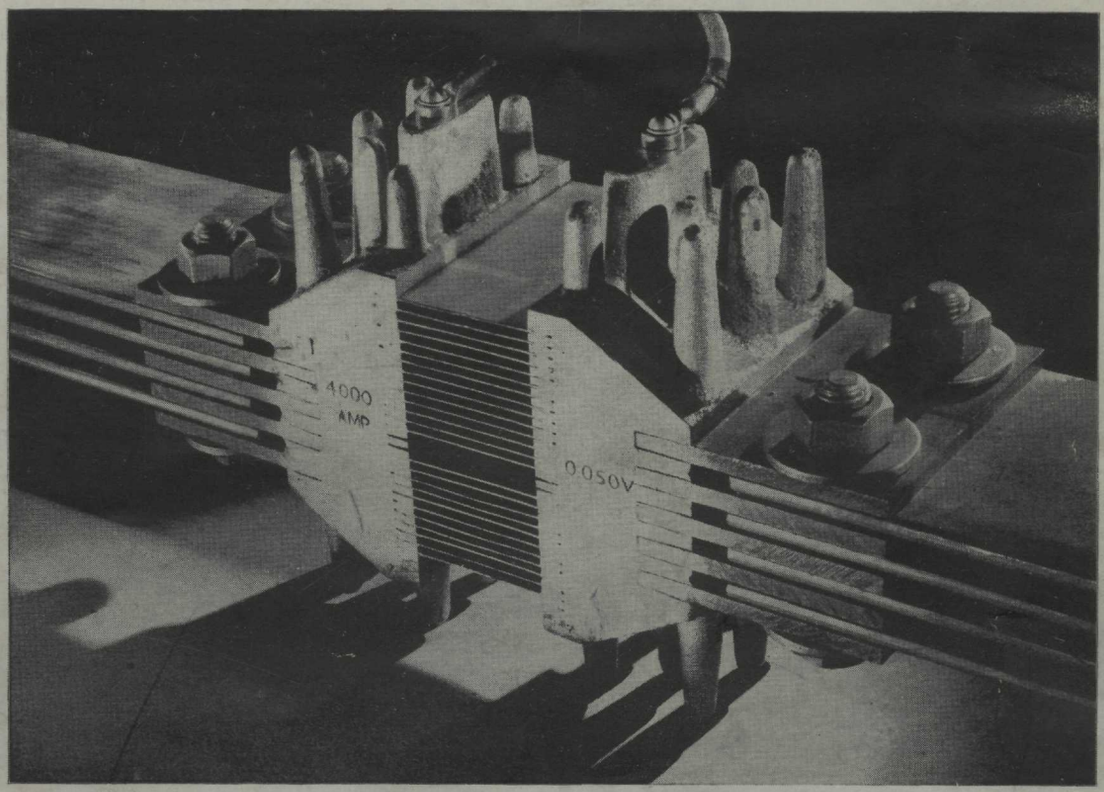
THE OHIO STATE ENGINEER



MASSIVE BUT ACCURATE SHUNT

(See Story on Page 18)

JUNE, 1940

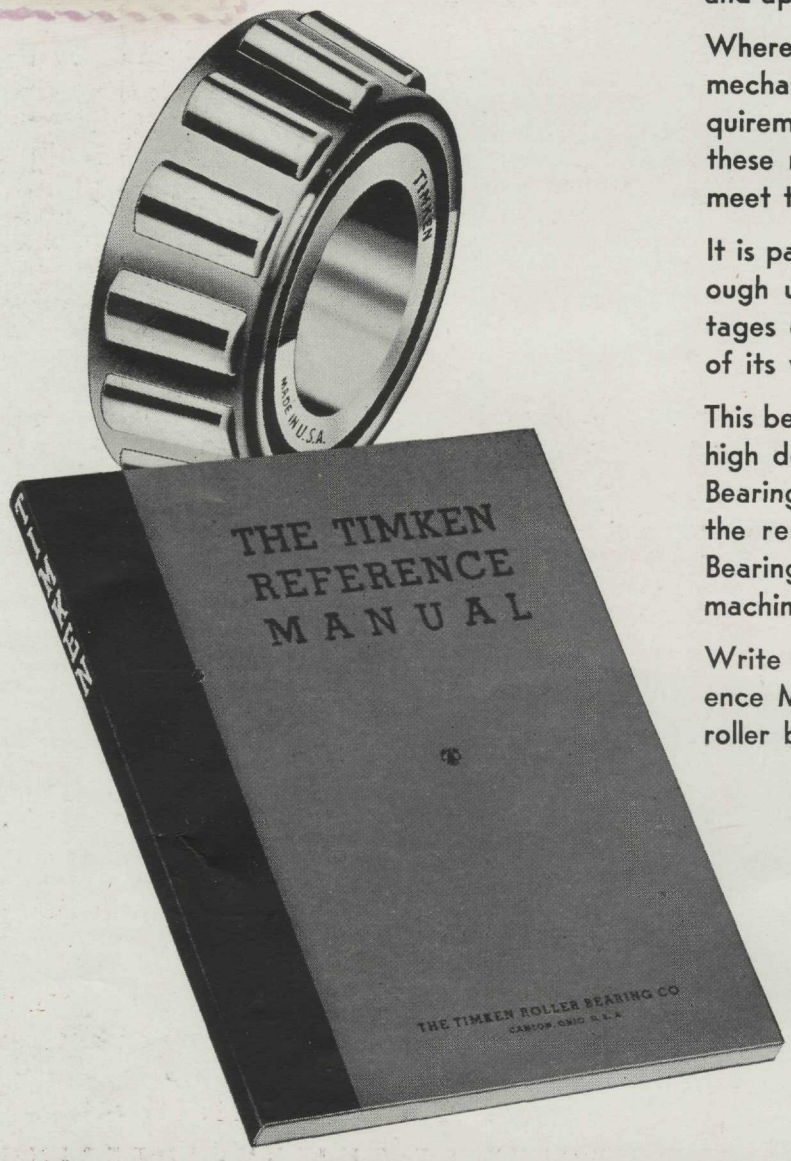
VOL. XXIII No. 7

FIFTEEN CENTS

MEMBER OF THE ENGINEERING COLLEGE MAGAZINES ASSOCIATED

KNOW YOUR BEARINGS

—be a better engineer



WHEN you receive your diploma and enter upon your career as a mechanical engineer you will find a sound knowledge of bearing design and application one of your most valuable assets.

Wherever wheels and shafts turn, every piece of mechanical equipment has its own bearing requirements. It will be part of your job to analyze these requirements and prescribe bearings to meet them.

It is particularly important that you have a thorough understanding of the design and advantages of the tapered roller bearing on account of its versatility and wide range of application.

This bearing has been developed to an extremely high degree of efficiency by The Timken Roller Bearing Company during the past 42 years, with the result that more TIMKEN Tapered Roller Bearings are now used in all kinds of industrial machinery than any other bearings.

Write for a copy of the 184 page Timken Reference Manual—a complete text book of tapered roller bearing design and application.

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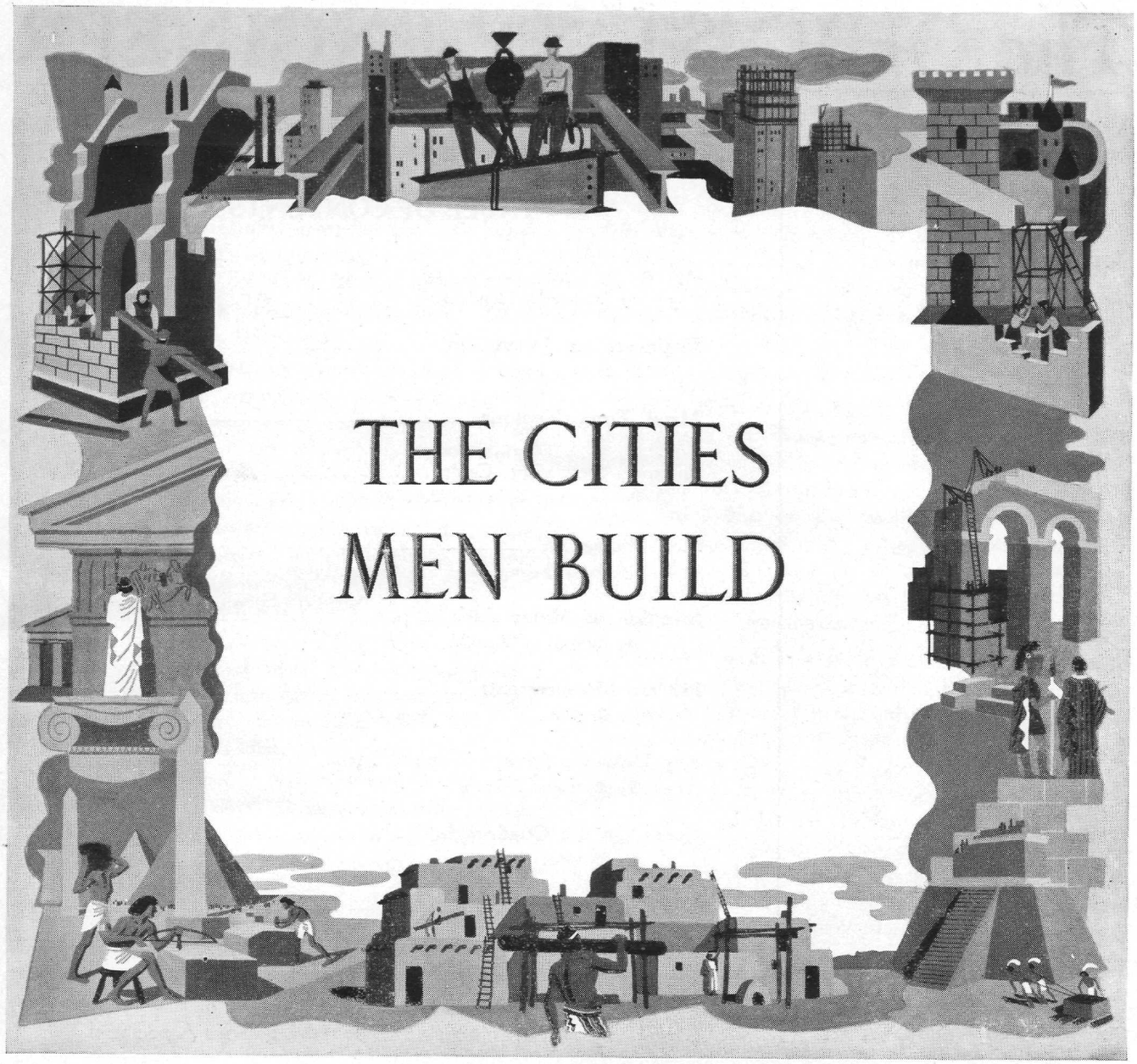
Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; and TIMKEN Rock Bits.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO



THE CITIES MEN BUILD

FROM THE EARLIEST times man has endeavored to create communities for reasons of safety, comfort and fellowship.

But as he built his towns and cities he faced new difficulties. None of these had greater bearing on his well-being than the removal and disposal of waste. To this day the sanitation of cities has remained one of the most pressing problems of urban life.

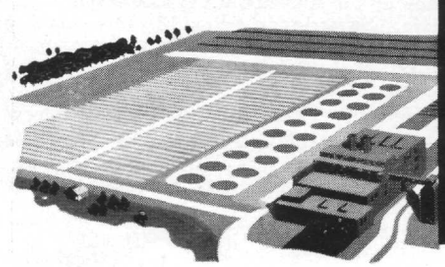
Yet here again modern chemistry is giving material aid to sanitary engineers who are meeting this municipal problem in a truly remarkable manner.

Raw sewage is about 97 per cent water and 3 per cent organic matter. The basic task is to extract the organic matter from the water. The solids must be precipitated in settling tanks, then coagulated—causing the organic particles to cling together. These primary processes are necessary so that the coagulated sewage, or sludge, can be dried and disposed of either as fertilizer or by burning.

For these processes modern practice calls for the use of Dow Ferric Chloride and many sewage disposal plants are designed accordingly, including the Southwest Plant recently completed in Chicago, the largest activated sludge plant in the world, with a capacity of 400,000,000 gallons a day.

Dow Ferric Chloride has proved to be a remarkably efficient conditioning agent. Engineers favor it also because it permits a much simpler design for disposal plants and assures a minimum of chemical and operating costs as well.

In this contribution to sanitary engineering we find another practical example of the far-reaching value of Dow's chemical developments.



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DOW
CHEMICALS INDISPENSABLE TO INDUSTRY

The OHIO STATE ENGINEER

Vol. XXIII JUNE, 1940 No. 7

The Ohio State Engineer and its staff wishes our readers the best of summer vacations and hope that you will all be with us next year.

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HELMUTH W. ENGELMAN, Editor IVAN W. SPRAITZAR, Bus. Mgr.

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